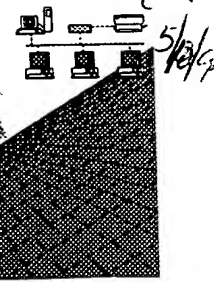n/a

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following CRF diskette:

Application Serial Number: 09/056,019

Art Unit / Team No. : 1615

Date Processed by STIC: 9/23/98

THE ATTACHED PRINTOUT EXPLAINS THE **ERRORS DETECTED.**

PLEASE BE SURE TO FORWARD THIS INFORMATION TO THE APPLICANTS BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANTS ALONG WITH A NOTICE TO COMPLY or,

2) CALLING APPLICANTS AND FAXING THEM A COPY OF THE PRINTOUT WITH A NOTICE TO COMPLY

THIS WILL INSURE THAT THE NEXT SUBMISSION RECEIVED FROM THEM WILL BE ERROR FREE.

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL:

ARTI SHAH 703-308-4212

1615

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/056,019

DATE: 09/23/98
TIME: 14:11:31

Input Set: I056019.RAW

This Raw Listing contains the General Information Section and up to first 5 pages.

New format
see p. 5

Does Not Comply
Corrected Diskette Needed

```
1    <110> APPLICANT: Tuomanen, Elaine I.
2          Wizemann, Theresa
3          Masure, H. R.
4          Johnson, Leslie S.
5          Koenig, Scott
6    <120> TITLE OF INVENTION: POLYPEPTIDE COMPRISING THE AMINO ACID OF AN N-TERMINAL
7          CHOLINE BINDING PROTEIN A TRUNCATE, VACCINE DERIVED
8          THEREFROM AND USES THEREOF
9    <130> FILE REFERENCE: 1340-1-017 msc
10   <140> CURRENT APPLICATION NUMBER: US/09/056,019
11   <141> CURRENT FILING DATE: 1998-04-17
12   <160> NUMBER OF SEQ ID NOS: 39
13   <170> SOFTWARE: PatentIn Ver. 2.0
14   <210> SEQ ID NO 1
15   <211> LENGTH: 406
16   <212> TYPE: PRT
17   <213> ORGANISM: Streptococcus pneumoniae
18   <400> SEQUENCE: 1
19         Glu Asn Glu Gly Ala Thr Gln Val Pro Thr Ser Ser Asn Arg Ala Asn
20          1               5                  10                 15
21         Glu Ser Gln Ala Glu Gln Gly Glu Gln Pro Lys Lys Leu Asp Ser Glu
22                     20                  25                 30
23         Arg Asp Lys Ala Arg Lys Glu Val Glu Glu Tyr Val Lys Lys Ile Val
24                     35                  40                 45
25         Gly Glu Ser Tyr Ala Lys Ser Thr Lys Lys Arg His Thr Ile Thr Val
26          50                  55                  60
27         Ala Leu Val Asn Glu Leu Asn Asn Ile Lys Asn Glu Tyr Leu Asn Lys
28          65                  70                  75                 80
29         Ile Val Glu Ser Thr Ser Glu Ser Gln Leu Gln Ile Leu Met Met Glu
30                          85                  90                 95
31         Ser Arg Ser Lys Val Asp Glu Ala Val Ser Lys Phe Glu Lys Asp Ser
32                     100                 105                110
33         Ser Ser Ser Ser Ser Ser Asp Ser Ser Thr Lys Pro Glu Ala Ser Asp
34                     115                 120                 125
35         Thr Ala Lys Pro Asn Lys Pro Thr Glu Pro Gly Glu Lys Val Ala Glu
36          130                 135                 140
37         Ala Lys Lys Lys Val Glu Glu Ala Glu Lys Lys Ala Lys Asp Gln Lys
38          145                 150                 155                160
39         Glu Glu Asp Arg Arg Asn Tyr Pro Thr Ile Thr Tyr Lys Thr Leu Glu
40                     165                 170                 175
41         Leu Glu Ile Ala Glu Ser Asp Val Glu Val Lys Lys Ala Glu Leu Glu
42                     180                 185                 190
43         Leu Val Lys Val Lys Ala Asn Glu Pro Arg Asp Glu Gln Lys Ile Lys
44          195                 200                 205
```

```
45         Gln Ala Glu Ala Glu Val Glu Ser Lys Gln Ala Glu Ala Thr Arg Leu
46            210                 215                 220
47         Lys Lys Ile Lys Thr Asp Arg Glu Glu Ala Glu Glu Glu Ala Lys Arg
48         225                 230                 235                 240
49         Arg Ala Asp Ala Lys Glu Gln Gly Lys Pro Lys Gly Arg Ala Lys Arg
50                     245                 250                 255
51         Gly Val Pro Gly Glu Leu Ala Thr Pro Asp Lys Lys Glu Asn Asp Ala
52                     260                 265                 270
53         Lys Ser Ser Asp Ser Ser Val Gly Glu Glu Thr Leu Pro Ser Pro Ser
54                     275                 280                 285
55         Leu Lys Pro Glu Lys Lys Val Ala Glu Ala Glu Lys Lys Val Glu Glu
56                     290                 295                 300
57         Ala Lys Lys Lys Ala Glu Asp Gln Lys Glu Glu Asp Arg Arg Asn Tyr
58         305                 310                 315                 320
59         Pro Thr Asn Thr Tyr Lys Thr Leu Glu Leu Glu Ile Ala Glu Ser Asp
60                     325                 330                 335
61         Val Glu Val Lys Lys Ala Glu Leu Glu Leu Val Lys Glu Glu Ala Lys
62                     340                 345                 350
63         Glu Pro Arg Asn Glu Glu Lys Val Lys Gln Ala Lys Ala Glu Val Glu
64                     355                 360                 365
65         Ser Lys Lys Ala Glu Ala Thr Arg Leu Glu Lys Ile Lys Thr Asp Arg
66                     370                 375                 380
67         Lys Lys Ala Glu Glu Glu Ala Lys Arg Lys Ala Ala Glu Glu Asp Lys
68         385                 390                 395                 400
69         Val Lys Glu Lys Pro Ala
70                     405
71  <210> SEQ ID NO 2
72  <211> LENGTH: 655
73  <212> TYPE: PRT
74  <213> ORGANISM: Streptococcus pneumoniae
75  <400> SEQUENCE: 2
76         Glu Asn Glu Gly Ala Thr Gln Val Pro Thr Ser Ser Asn Arg Ala Asn
77          1               5                  10                  15
78         Glu Ser Gln Ala Glu Gln Gly Glu Gln Pro Lys Lys Leu Asp Ser Glu
79                      20                  25                  30
80         Arg Asp Lys Ala Arg Lys Glu Val Glu Glu Tyr Val Lys Lys Ile Val
81                      35                  40                  45
82         Gly Glu Ser Tyr Ala Lys Ser Thr Lys Lys Arg His Thr Ile Thr Val
83              50                  55                  60
84         Ala Leu Val Asn Glu Leu Asn Asn Ile Lys Asn Glu Tyr Leu Asn Lys
85          65                  70                  75                  80
86         Ile Val Glu Ser Thr Ser Glu Ser Gln Leu Gln Ile Leu Met Met Glu
87                      85                  90                  95
88         Ser Arg Ser Lys Val Asp Glu Ala Val Ser Lys Phe Glu Lys Asp Ser
89                     100                 105                 110
90         Ser Ser Ser Ser Ser Ser Asp Ser Ser Thr Lys Pro Glu Ala Ser Asp
91                     115                 120                 125
92         Thr Ala Lys Pro Asn Lys Pro Thr Glu Pro Gly Glu Lys Val Ala Glu
93                     130                 135                 140
94         Ala Lys Lys Lys Val Glu Glu Ala Glu Lys Lys Ala Lys Asp Gln Lys
```

1615

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/056,019

DATE: 09/23/98
TIME: 14:11:31

Input Set: I056019.RAW

```
                                                          155                  160
                       145                 150
 95
 96                    Glu Glu Asp Arg Arg Asn Tyr Pro Thr Ile Thr Tyr Lys Thr Leu Glu
 97                                     165                 170                 175
 98                    Leu Glu Ile Ala Glu Ser Asp Val Glu Val Lys Lys Ala Glu Leu Glu
 99                                 180                 185                 190
100                    Leu Val Lys Val Lys Ala Asn Glu Pro Arg Asp Glu Gln Lys Ile Lys
101                                 195                 200                 205
102                    Gln Ala Glu Ala Glu Val Glu Ser Lys Gln Ala Glu Ala Thr Arg Leu
103                                 210                 215                 220
104                    Lys Lys Ile Lys Thr Asp Arg Glu Glu Ala Glu Glu Glu Ala Lys Arg
105                    225                 230                 235                 240
106                    Arg Ala Asp Ala Lys Glu Gln Gly Lys Pro Lys Gly Arg Ala Lys Arg
107                                     245                 250                 255
108                    Gly Val Pro Gly Glu Leu Ala Thr Pro Asp Lys Lys Glu Asn Asp Ala
109                                 260                 265                 270
110                    Lys Ser Ser Asp Ser Ser Val Gly Glu Glu Thr Leu Pro Ser Pro Ser
111                                 275                 280                 285
112                    Leu Lys Pro Glu Lys Lys Val Ala Glu Ala Glu Lys Lys Val Glu Glu
113                                 290                 295                 300
114                    Ala Lys Lys Lys Ala Glu Asp Gln Lys Glu Glu Asp Arg Arg Asn Tyr
115                    305                 310                 315                 320
116                    Pro Thr Asn Thr Tyr Lys Thr Leu Glu Leu Glu Ile Ala Glu Ser Asp
117                                     325                 330                 335
118                    Val Glu Val Lys Lys Ala Glu Leu Glu Leu Val Lys Glu Glu Ala Lys
119                                 340                 345                 350
120                    Glu Pro Arg Asn Glu Glu Lys Val Lys Gln Ala Lys Ala Glu Val Glu
121                                 355                 360                 365
122                    Ser Lys Lys Ala Glu Ala Thr Arg Leu Glu Lys Ile Lys Thr Asp Arg
123                    370                 375                 380
124                    Lys Lys Ala Glu Glu Glu Ala Lys Arg Lys Ala Ala Glu Glu Asp Lys
125                    385                 390                 395                 400
126                    Val Lys Glu Lys Pro Ala Glu Gln Pro Gln Pro Ala Pro Ala Pro Lys
127                                     405                 410                 415
128                    Ala Glu Lys Pro Ala Pro Ala Pro Lys Pro Glu Asn Pro Ala Glu Gln
129                                 420                 425                 430
130                    Pro Lys Ala Glu Lys Pro Ala Asp Gln Gln Ala Glu Glu Asp Tyr Ala
131                    435                 440                 445
132                    Arg Arg Ser Glu Glu Glu Tyr Asn Arg Leu Thr Gln Gln Pro Pro
133                    450                 455                 460
134                    Lys Thr Glu Lys Pro Ala Gln Pro Ser Thr Pro Lys Thr Gly Trp Lys
135                    465                 470                 475                 480
136                    Gln Glu Asn Gly Met Trp Tyr Phe Tyr Asn Thr Asp Gly Ser Met Ala
137                                     485                 490                 495
138                    Thr Gly Trp Leu Gln Asn Asn Gly Ser Trp Tyr Tyr Leu Asn Ser Asn
139                                 500                 505                 510
140                    Gly Ala Met Ala Thr Gly Trp Leu Gln Asn Asn Gly Ser Trp Tyr Tyr
141                                 515                 520                 525
142                    Leu Asn Ala Asn Gly Ser Met Ala Thr Gly Trp Leu Gln Asn Asn Gly
143                                 530                 535                 540
144                    Ser Trp Tyr Tyr Leu Asn Ala Asn Gly Ser Met Ala Thr Gly Trp Leu
```

1615

PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/056,019

DATE: 09/23/98
TIME: 14:11:31

Input Set: **I056019.RAW**

```
                          550               555               560
145      545
146      Gln Tyr Asn Gly Ser Trp Tyr Tyr Leu Asn Ala Asn Gly Ser Met Ala
                          565               570               575
147
148      Thr Gly Trp Leu Gln Tyr Asn Gly Ser Trp Tyr Tyr Leu Asn Ala Asn
                          580               585               590
149
150      Gly Asp Met Ala Thr Gly Trp Val Lys Asp Gly Asp Thr Trp Tyr Tyr
                          595               600               605
151
152      Leu Glu Ala Ser Gly Ala Met Lys Ala Ser Gln Trp Phe Lys Val Ser
                          610               615               620
153
154      Asp Lys Trp Tyr Tyr Val Asn Gly Ser Gly Ala Leu Ala Val Asn Thr
                          625               630               635               640
155
156      Thr Val Asp Gly Tyr Gly Val Asn Ala Asn Gly Glu Trp Val Asn
                          645               650               655
157
158  <210> SEQ ID NO 3
159  <211> LENGTH: 284
160  <212> TYPE: PRT
161  <213> ORGANISM: Streptococcus pneumoniae
162  <400> SEQUENCE: 3
163      Glu Asn Glu Gly Ala Thr Gln Val Pro Thr Ser Ser Asn Arg Ala Asn
             1               5               10              15
164
165      Glu Ser Gln Ala Glu Gln Gly Glu Gln Pro Lys Lys Leu Asp Ser Glu
                          20              25              30
166
167      Arg Asp Lys Ala Arg Lys Glu Val Glu Glu Tyr Val Lys Lys Ile Val
                          35              40              45
168
169      Gly Glu Ser Tyr Ala Lys Ser Thr Lys Lys Arg His Thr Ile Thr Val
                          50              55              60
170
171      Ala Leu Val Asn Glu Leu Asn Asn Ile Lys Asn Glu Tyr Leu Asn Lys
                          65              70              75              80
172
173      Ile Val Glu Ser Thr Ser Glu Ser Gln Leu Gln Ile Leu Met Met Glu
                          85              90              95
174
175      Ser Arg Ser Lys Val Asp Glu Ala Val Ser Lys Phe Glu Lys Asp Ser
                          100             105             110
176
177      Ser Ser Ser Ser Ser Ser Asp Ser Ser Thr Lys Pro Glu Ala Ser Asp
                          115             120             125
178
179      Thr Ala Lys Pro Asn Lys Pro Thr Glu Pro Gly Glu Lys Val Ala Glu
             130             135             140
180
181      Ala Lys Lys Lys Val Glu Glu Ala Glu Lys Lys Ala Lys Asp Gln Lys
             145             150             155             160
182
183      Glu Glu Asp Arg Arg Asn Tyr Pro Thr Ile Thr Tyr Lys Thr Leu Glu
                          165             170             175
184
185      Leu Glu Ile Ala Glu Ser Asp Val Glu Val Lys Lys Ala Glu Leu Glu
                          180             185             190
186
187      Leu Val Lys Val Lys Ala Asn Glu Pro Arg Asp Glu Gln Lys Ile Lys
             195             200             205
188
189      Gln Ala Glu Ala Glu Val Glu Ser Lys Gln Ala Glu Ala Thr Arg Leu
             210             215             220
190
191      Lys Lys Ile Lys Thr Asp Arg Glu Glu Ala Glu Glu Glu Ala Lys Arg
             225             230             235             240
192
193      Arg Ala Asp Ala Lys Glu Gln Gly Lys Pro Lys Gly Arg Ala Lys Arg
                          245             250             255
194
```

1615

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/056,019

DATE: 09/23/98
TIME: 14:11:31

Input Set: I056019.RAW

```
195          Gly Val Pro Gly Glu Leu Ala Thr Pro Asp Lys Lys Glu Asn Asp Ala
196                       260                 265                 270
197          Lys Ser Ser Asp Ser Ser Val Gly Glu Glu Thr Leu
198                       275                 280
199   <210> SEQ ID NO 4
200   <211> LENGTH: 106
201   <212> TYPE: PRT
202   <213> ORGANISM: Streptococcus pneumoniae
203   <400> SEQUENCE: 4
204          Lys Pro Glu Lys Lys Val Ala Glu Ala Glu Lys Lys Val Glu Glu Ala
205           1               5                  10                  15
206          Lys Lys Lys Ala Glu Asp Gln Lys Glu Glu Asp Arg Arg Asn Tyr Pro
207                       20                  25                  30
208          Thr Asn Thr Tyr Lys Thr Leu Glu Leu Glu Ile Ala Glu Ser Asp Val
209                       35                  40                  45
210          Glu Val Lys Lys Ala Glu Leu Glu Leu Val Lys Glu Glu Ala Lys Glu
211                       50                  55                  60
212          Pro Arg Asn Glu Glu Lys Val Lys Gln Ala Lys Ala Glu Val Glu Ser
213                       65                  70                  75                  80
214          Lys Lys Ala Glu Ala Thr Arg Leu Glu Lys Ile Lys Thr Asp Arg Lys
215                       85                  90                  95
216          Lys Ala Glu Glu Glu Ala Lys Arg Lys Ala
217                       100                 105
218   <210> SEQ ID NO 5
219   <211> LENGTH: 109
220   <212> TYPE: PRT
221   <213> ORGANISM: Streptococcus pneumoniae
222   <400> SEQUENCE: 5
223          Thr Glu Pro Gly Glu Lys Val Ala Glu Ala Lys Lys Lys Val Glu Glu
224           1               5                  10                  15
225          Ala Glu Lys Lys Ala Lys Asp Gln Lys Glu Glu Asp Arg Arg Asn Tyr
226                       20                  25                  30
227          Pro Thr Ile Thr Tyr Lys Thr Leu Glu Leu Glu Ile Ala Glu Ser Asp
228                       35                  40                  45
229          Val Glu Val Lys Lys Ala Glu Leu Glu Leu Val Lys Val Lys Ala Asn
230                       50                  55                  60
231          Glu Pro Arg Asp Glu Gln Lys Ile Lys Gln Ala Glu Ala Glu Val Glu
232                       65                  70                  75                  80
233          Ser Lys Gln Ala Glu Ala Thr Arg Leu Lys Lys Ile Lys Thr Asp Arg
234                       85                  90                  95
235          Glu Glu Ala Glu Glu Glu Ala Lys Arg Arg Ala Asp Ala
236                       100                 105
237   <210> SEQ ID NO 6
238   <211> LENGTH: 4
239   <212> TYPE: PRT
240   <213> ORGANISM: Streptococcus pneumoniae
241   <400> SEQUENCE: 6
242          Lys Xaa Xaa Glu
243           1
244   <210> SEQ ID NO 7
```

W-->

see item 10 on Erra summary sheet

Please note:
Use n's and/or Xaa's have been detected in the Sequence Listing. Please review any
subsequent sequences in the Sequence Listing to ensure that a corresponding explanation
is presented in the <220> - <223> section of each sequence presenting at least one n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION **US/09/056,019**

DATE: 09/23/98
TIME: 14:11:31

Input Set: **I056019.RAW**

Line	?	Error/Warning	Original Text
242	W	"N" or "Xaa" used: Feature required	Lys Xaa Xaa Glu
788	W	"N" or "Xaa" used: Feature required	Xaa Glu Asn Glu Gly
825	W	"N" or "Xaa" used: Feature required	Glu Val Xaa Gly Glu Leu Ala Thr Pro Asp L